

# OM KATE

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## Education

### St Francis Institute of Technology

*Bachelor of Engineering in Electronics & Telecommunications*

Sep. 2023 – Present

*Mumbai, Maharashtra*

## Technical Skills

**Languages:** C, Java, HTML/CSS, Python, JavaScript

**Tools:** Git, Docker, Bash, Make, VSCode, VIM, GDB

**Technologies/Frameworks:** Linux, GitHub, KVM, Hyper-V, Arduino, SDL

## Volunteering

### Catppuccin

*Volunteer*

Mar 2022

*Remote*

- Created and contributed Bash scripts and configurations to port a color scheme across 5+ software applications, enhancing user experience.

## Projects

### HomeLab | *Windows, Linux, Docker, KVM*

Jan 2022

- Engineered home lab infrastructure with self-hosted services, improving system performance and reliability.
- Implemented KVM virtualization to run game servers in Windows, optimizing resource usage and performance.
- Utilized Docker Compose for efficient container orchestration, managing and scaling 10+ services.

### CHIP-8 Emulator | *C, Linux, Windows, SDL*

February 2024

- Built a cross-platform CHIP-8 emulator in C with SDL, demonstrating low-level programming expertise.
- Designed a comprehensive test suite, ensuring functionality across x86 platforms and ROM compatibility.

### Ammonia and Odour Detector | *JavaScript, Python, Arduino*

March 2024

- Built a real-time ammonia detection system using Arduino, featuring web-based data visualization that improved monitoring efficiency.
- Developed a Python data collection script and Node.js Express server, facilitating seamless data handling.

### MirageAI | *Flask, Python, OpenCV, NextJs, ReactJs*

September 2024

- Innovated video compression software that detects still frames, optimizing bitrate and resolution, resulting in a storage efficiency increase of up to 95%.
- Achieved a significant reduction in file sizes while maintaining video quality, demonstrating advanced programming and problem-solving skills.

## Leadership / Extracurricular

### Computer Society of India (CSI)

June 2024 - Present

*Joint Technical Head*

*Committee*

- Developed an AR application that activates a committee logo pop-up when hovering over a QR code, enhancing user interaction.
- Curated and edited AR/VR-related articles for a magazine and technical CSE articles for a WhatsApp group, fostering knowledge sharing among students.
- Designed and implemented a space-themed FPS game using Godot, showcasing creativity and technical skills.

### E-Tan

July 2024 - Present

*Research and Development Member*

*Committee*

- Composed a hyper-optimized website for slow servers, resulting in a 40% increase in load speed and improved user experience.
- Conducted workshops on web development and optimization, training 20+ team members on best practices and techniques.

## Achievements

- Secured 2nd Place in ITS-A-HACK conducted by ITSA SFIT, showcasing problem-solving and programming skills.